WoT Plugfest
Semantic Integration

Prague Plugfest, March 2018

Semantic Categorization and Classification Model

- Layered descriptive model
  - Thing type (A Thing is a type of thing)
    - luminaire, washing machine, door
  - Capability (A Thing has a Capability)
    - on/off, brightness, opening, closing, sensing
  - Interaction (A Capability provides an Interaction)
    - open, turn on, read temperature
  - Data Shape (An Interaction exchanges a Data representation of a particular Shape)
    - Integer, 0 <= value <= 255

Semantic Integration

- iotschema Capability model
  - Capability (switch, speed, brightness)
  - Interaction (event, action, property)
  - Data Item (brightness value, transition time, speed value)
- Granular Capabilities
  - Light => switch,brightness, colorcontrol
  - Air Conditioner => switch, fan speed, operational mode

TD Annotation: Capability, Interaction, and Data Item

```
"base": "coap://example.net:5683/",
"@type": [ "Thing", "iot:TemperatureCapability" ],
"name": "Temperature Sensor",
"interaction": [
  {
    "name": "Temperature",
    "@type": ["Property", "iot:TemperatureProperty"],
    "outputData": {
      "type": "object",
      "field": [
        {
          "name": "temperature",
          "@type": ["iot:TemperatureData"],
          "type": "number",
          "minimum": -50,
          "maximum": 100,
          "unit": "Celsius"
        }
      ]
    }
  }
```